Survey About Threats and Conservation Needs for Fish and Wildlife Habitats in Indiana

Summary of Results – Interior Plateau (Region 5)

Section III: Threats to Fish and Wildlife Habitats

11. How would you describe the **overall quality** of fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5)? (Check only one)

	Very Poor		Poor		Satisfactory		Good		Very good		I don't know		Total
	%	N	%	N	%	N	%	N	%	N	%	N	Responses
Aquatic systems	0.0	0	16.0	4	40.0	10	36.0	9	8.0	2	0.0	0	25
Agricultural lands	6.3	1	37.5	6	43.8	7	6.3	1	6.3	1	0.0	0	16
Barren lands	0.0	0	18.2	2	54.5	6	18.2	2	9.1	1	0.0	0	11
Developed Lands	11.1	1	55.6	5	22.2	2	11.1	1	0.0	0	0.0	0	9
Forests	0.0	0	11.1	5	37.8	17	37.8	17	13.3	6	0.0	0	45
Grasslands	0.0	0	60.0	6	40.0	4	0.0	0	0.0	0	0.0	0	10
Subterranean systems	0.0	0	30.0	3	50.0	5	20.0	2	0.0	0	0.0	0	10
Wetlands	7.7	1	38.5	5	30.8	4	23.1	3	0.0	0	0.0	0	13
Total	2.2	3	25.9	36	39.6	55	25.2	35	7.2	10	0.0	0	139

12. How would you describe the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5) since 2005? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	8.0	2	72.0	18	20.0	5	0.0	0	25
Agricultural lands	6.3	1	50.0	8	43.8	7	0.0	0	16
Barren lands	18.2	2	54.5	6	18.2	2	9.1	1	11
Developed Lands	11.1	1	44.4	4	44.4	4	0.0	0	9
Forests	20.0	9	53.3	24	26.7	12	0.0	0	45
Grasslands	20.0	2	40.0	4	40.0	4	0.0	0	10
Subterranean systems	0.0	0	88.9	8	11.1	1	0.0	0	9
Wetlands	7.7	1	53.8	7	38.5	5	0.0	0	13
Total	13.0	18	57.2	79	29.0	40	.7	1	138

Quality of fish and wildlife habitats within HABITAT since 2005

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	8.0	2	76.0	19	16.0	4	0.0	0	25
Agricultural lands	6.3	1	50.0	8	43.8	7	0.0	0	16
Barren lands	9.1	1	63.6	7	18.2	2	9.1	1	11
Developed Lands	0.0	0	55.6	5	44.4	4	0.0	0	9
Forests	18.2	8	52.3	23	27.3	12	2.3	1	44
Grasslands	0.0	0	50.0	5	40.0	4	10.0	1	10
Subterranean systems	0.0	0	40.0	4	60.0	6	0.0	0	10
Wetlands	7.7	1	61.5	8	30.8	4	0.0	0	13
Total	9.4	13	57.2	79	31.2	43	2.2	3	138

13. How would you predict about the total amount and overall quality of fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5) over the next 10 years? (Check one for each line item)

Amount of fish and wildlife habitats within HABITAT over the next 10 years

	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	8.0	2	60.0	15	32.0	8	0.0	0	25
Agricultural lands	6.3	1	25.0	4	68.8	11	0.0	0	16
Barren lands	18.2	2	45.5	5	36.4	4	0.0	0	11
Developed Lands	11.1	1	22.2	2	66.7	6	0.0	0	9
Forests	15.6	7	55.6	25	24.4	11	4.4	2	45
Grasslands	10.0	1	30.0	3	60.0	6	0.0	0	10
Subterranean systems	0.0	0	80.0	8	20.0	2	0.0	0	10
Wetlands	7.7	1	38.5	5	53.8	7	0.0	0	13
Total	10.8	15	48.2	67	39.6	55	1.4	2	139

Quality of fish and wildlife habitats within HABITAT over the next 10 years

Interior Plateau (Region 5)	Increase		About the same		Decrease		I don't know		
	%	N	%	N	%	N	%	N	Total Responses
Aquatic systems	8.0	2	60.0	15	28.0	7	4.0	1	25
Agricultural lands	6.3	1	43.8	7	50.0	8	0.0	0	16
Barren lands	9.1	1	63.6	7	27.3	3	0.0	0	11
Developed Lands	0.0	0	33.3	3	66.7	6	0.0	0	9
Forests	13.3	6	48.9	22	35.6	16	2.2	1	45
Grasslands	10.0	1	40.0	4	50.0	5	0.0	0	10
Subterranean systems	0.0	0	50.0	5	40.0	4	10.0	1	10
Wetlands	7.7	1	46.2	6	46.2	6	0.0	0	13
Total	8.6	12	49.6	69	39.6	55	2.2	3	139

14. **Currently**, to what extent do you think the following general categories of threats **apply** to fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5)? (Check one for each line item)

Interior Plateau (Region 5)	Signficant threat		Moderate Threat		Minor Threat		Not a threat		I don't know		Total
	%	N	%	N	%	N	%	N	%	N	Responses
Residential and commercial development	45.6	62	33.1	45	14.7	20	5.1	7	1.5	2	136
Agriculture and aquaculture	26.7	36	41.5	56	23.0	31	5.9	8	3.0	4	135
Energy production and mining	14.8	20	23.0	31	44.4	60	11.1	15	6.7	9	135
Transportation and service corridors	23.0	31	29.6	40	35.6	48	8.1	11	3.7	5	135
Biological resource use	6.8	9	23.3	31	40.6	54	20.3	27	9.0	12	133
Human intrusion and disturbance	23.9	32	34.3	46	29.1	39	8.2	11	4.5	6	134
Natural systems modifications	24.8	33	34.6	46	24.1	32	10.5	14	6.0	8	133
Invasives and other problematic species and genes	46.3	62	29.1	39	18.7	25	3.0	4	3.0	4	134
Pollution	25.9	35	31.9	43	28.1	38	7.4	10	6.7	9	135
Climate change and severe weather	15.6	21	28.1	38	31.9	43	16.3	22	8.1	11	135
Other stressors	11.7	14	27.5	33	30.8	37	9.2	11	20.8	25	120

15. You indicated a number of general categories as significant or moderate threats to fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5). Please indicate which of the following are specific threats to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5) and their trends over the next 10 years. You may add additional threats you think are important using the "Other, please specify" option.

Residential and Commercial Development

	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
Interior Plateau (Region 5)	**Signficant threat**		**Moderate Threat**		**Minor Threat**		**Not a threat**		**I don't know**		**Total Responses**	**Increase**		**Remain the same**		**Decrease**		**I don't know**		**Total Responses**
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	%	N	
Housing and urban areas	44.8	47	40.0	42	15.2	16	0.0	0	.0	0	105	79.6	74	19.4	18	0.0	0	1.1	1	93
Commercial and industrial areas	30.1	31	43.7	45	21.4	22	0.0	0	4.9	5	103	57.1	52	35.2	32	0.0	0	7.7	7	91
Tourism and recreation areas (e.g., sites with a substantial footprint – golf courses, campgrounds, etc.)	9.5	10	29.5	31	42.9	45	14.3	15	3.8	4	105	47.3	44	45.2	42	0.0	0	7.5	7	93

Other responses listed:

Response text:	**N**
I 69 through R5	1
Total responses:	**1**

Agriculture and Aquaculture

	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
Interior Plateau (Region 5)	**Signficant threat**		**Moderate Threat**		**Minor Threat**		**Not a threat**		**I don't know**		**Total Responses**	**Increase**		**Remain the same**		**Decrease**		**I don't know**		**Total Responses**
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	%	N	
Annual and perennial nontimber crops	26.4	24	38.5	35	28.6	26	3.3	3	3.3	3	91	43.0	37	47.7	41	1.2	1	8.1	7	86
Wood and pulp plantations	5.6	5	25.6	23	33.3	30	20.0	18	15.6	14	90	26.7	23	54.7	47	1.2	1	17.4	15	86
Livestock farming and ranching	9.9	9	49.5	45	29.7	27	3.3	3	7.7	7	91	30.2	26	59.3	51	0.0	0	10.5	9	86
Aquaculture	2.3	2	4.6	4	26.4	23	32.2	28	34.5	30	87	12.8	10	52.6	41	1.3	1	33.3	26	78
Conversion of habitat to annual crops	38.9	35	40.0	36	13.3	12	3.3	3	4.4	4	90	58.1	50	33.7	29	1.2	1	7.0	6	86

Other responses listed:

Response text:	**N**
Total responses:	**0**

Energy Production and Mining

Interior Plateau (Region 5)	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
	Signficant threat		**Moderate Threat**		**Minor Threat**		**Not a threat**		**I don't know**			**Increase**		**Remain the same**		**Decrease**		**I don't know**		
	%	N	%	N	%	N	%	N	%	N	**Total Responses**	%	N	%	N	%	N	%	N	**Total Responses**
Oil and gas drilling	21.6	11	45.1	23	27.5	14	0.0	0	5.9	3	51	62.0	31	28.0	14	0.0	0	10.0	5	50
Mining and quarrying	27.5	14	49.0	25	21.6	11	0.0	0	2.0	1	51	60.0	30	32.0	16	0.0	0	8.0	4	50
Renewable energy production	2.0	1	40.8	20	22.4	11	26.5	13	8.2	4	49	42.2	19	40.0	18	2.2	1	15.6	7	45
Fossil fuel energy production	34.0	17	50.0	25	12.0	6	0.0	0	4.0	2	50	63.3	31	24.5	12	0.0	0	12.2	6	49
Shale gas development (e.g., fracking)	38.0	19	42.0	21	14.0	7	0.0	0	6.0	3	50	79.2	38	12.5	6	0.0	0	8.3	4	48

Other responses listed:	
Response text:	**N**
Total responses:	**0**

Transportation and Service Corridors

Interior Plateau (Region 5)	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
	Signficant threat		**Moderate Threat**		**Minor Threat**		**Not a threat**		**I don't know**			**Increase**		**Remain the same**		**Decrease**		**I don't know**		
	%	N	%	N	%	N	%	N	%	N	**Total Responses**	%	N	%	N	%	N	%	N	**Total Responses**
Roads and railroads	40.6	28	42.0	29	13.0	9	1.4	1	2.9	2	69	67.6	46	26.5	18	0.0	0	5.9	4	68
Utility and service lines	5.6	4	49.3	35	36.6	26	7.0	5	1.4	1	71	45.6	31	50.0	34	0.0	0	4.4	3	68
Flight paths	2.8	2	11.3	8	31.0	22	42.3	30	12.7	9	71	23.4	15	62.5	40	0.0	0	14.1	9	64
Shipping lanes	10.0	7	8.6	6	15.7	11	52.9	37	12.9	9	70	19.7	13	60.6	40	0.0	0	19.7	13	66

Other responses listed:	
Response text:	**N**
Total responses:	**0**

Biological Resource Use

Interior Plateau (Region 5)	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
	Signficant threat		Moderate Threat		Minor Threat		Not a threat		I don't know		Total Responses	Increase		Remain the same		Decrease		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	%	N	
Forestry practices (e.g., silvicultural methods leading to the lack of early successional habitat)	35.9	14	51.3	20	7.7	3	2.6	1	2.6	1	39	71.8	28	23.1	9	0.0	0	5.1	2	39

Other responses listed:	
Response text:	**N**
Total responses:	**0**

Human Intrusion and Disturbance

Interior Plateau (Region 5)	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
	Signficant threat		Moderate Threat		Minor Threat		Not a threat		I don't know		Total Responses	Increase		Remain the same		Decrease		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	%	N	
Recreation activities (e.g., ATVs, trail use, horseback riding, high-speed boating, canoeing)	16.9	13	50.6	39	29.9	23	2.6	2	0.0	0	77	60.5	46	34.2	26	0.0	0	5.3	4	76

Other responses listed:	
Response text:	**N**
Gold panning or similar	1
Total responses:	**1**

Natural Systems Modification

Interior Plateau (Region 5)	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
	Signficant threat		Moderate Threat		Minor Threat		Not a threat		I don't know		Total Responses	Increase		Remain the same		Decrease		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	%	N	
Dams and water management/use	13.9	11	39.2	31	32.9	26	7.6	6	6.3	5	79	40.3	29	47.2	34	0.0	0	12.5	9	72
Fire and fire suppression	10.3	8	33.3	26	29.5	23	20.5	16	6.4	5	78	21.6	16	67.6	50	0.0	0	10.8	8	74
Log jam removal	8.9	7	16.5	13	38.0	30	26.6	21	10.1	8	79	19.4	14	66.7	48	1.4	1	12.5	9	72
Over-mowing of natural areas	11.7	9	26.0	20	39.0	30	15.6	12	7.8	6	77	35.1	26	52.7	39	1.4	1	10.8	8	74
Conversion of natural	64.6	51	31.6	25	3.8	3	0.0	0	0.0	0	79	81.3	61	16.0	12	0.0	0	2.7	2	75

habitats to other land uses																			

Other responses listed:	
Response text:	N
Total responses:	0

Invasives and Other Problematic Species/Genes

Interior Plateau (Region 5)	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
	Signficant threat		Moderate Threat		Minor Threat		Not a threat		I don't know		Total Responses	Increase		Remain the same		Decrease		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	%	N	
Invasive/alien species	64.3	63	32.7	32	3.1	3	0.0	0	0.0	0	98	89.2	83	9.7	9	1.1	1	0.0	0	93
Problematic native species (e.g. overabundant native deer or algae)	27.3	27	35.4	35	24.2	24	10.1	10	3.0	3	99	49.5	47	45.3	43	0.0	0	5.3	5	95
Plant diseases	23.0	23	28.0	28	27.0	27	7.0	7	15.0	15	100	45.4	44	33.0	32	.0	0	21.6	21	97
Introduced genetic material (such as crop, seed stock, biocontrol, stocked/released species, etc.)	15.2	15	23.2	23	30.3	30	12.1	12	19.2	19	99	43.0	40	36.6	34	0.0	0	20.4	19	93

Other responses listed:	
Response text:	N
Total responses:	0

Pollution

Interior Plateau (Region 5)	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
	Signficant threat		Moderate Threat		Minor Threat		Not a threat		I don't know		Total Responses	Increase		Remain the same		Decrease		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	%	N	
Runoff from roads/service corridors	28.9	22	42.1	32	26.3	20	2.6	2	0.0	0	76	53.4	39	45.2	33	0.0	0	1.4	1	73
Chemical spills	20.3	15	35.1	26	43.2	32	1.4	1	0.0	0	74	41.7	30	55.6	40	.0	0	2.8	2	72
Point source pollution from commercial/industrial sources	26.3	20	44.7	34	26.3	20	2.6	2	.0	0	76	44.3	31	52.9	37	0.0	0	2.9	2	70
Air pollution (e.g., smoke, mercury emissions)	21.3	16	46.7	35	24.0	18	4.0	3	4.0	3	75	49.3	36	46.6	34	0.0	0	4.1	3	73
Household sewage and urban water waste	36.8	28	28.9	22	30.3	23	3.9	3	0.0	0	76	60.6	43	36.6	26	1.4	1	1.4	1	71
Agriculture, residential, and forestry effluents	36.8	28	46.1	35	17.1	13	0.0	0	0.0	0	76	58.3	42	40.3	29	0.0	0	1.4	1	72
Garbage and solid waste	28.4	21	31.1	23	32.4	24	5.4	4	2.7	2	74	50.7	36	45.1	32	0.0	0	4.2	3	71

Excess energy (e.g., noise/light pollution, warm water discharge, etc.)	23.7	18	26.3	20	31.6	24	13.2	10	5.3	4	76	50.0	35	42.9	30	1.4	1	5.7	4	70

Other responses listed:	
Response text:	**N**
Total responses:	**0**

Climate Change and Severe Weather

	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
Interior Plateau (Region 5)	**Signficant threat**		**Moderate Threat**		**Minor Threat**		**Not a threat**		**I don't know**		**Total Responses**	**Increase**		**Remain the same**		**Decrease**		**I don't know**		**Total Responses**
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	%	N	
Changing frequency, duration, and intensity of drought	34.5	20	62.1	36	3.4	2	0.0	0	0.0	0	58	88.7	47	9.4	5	0.0	0	1.9	1	53
Changing frequency, duration, and intensity of floods	22.4	13	63.8	37	6.9	4	3.4	2	3.4	2	58	81.5	44	14.8	8	0.0	0	3.7	2	54
Shifting and alteration of habitats due to climate change	32.8	19	55.2	32	10.3	6	1.7	1	0.0	0	58	88.7	47	9.4	5	0.0	0	1.9	1	53
Temperature extremes	29.3	17	51.7	30	19.0	11	0.0	0	0.0	0	58	81.5	44	14.8	8	0.0	0	3.7	2	54
Shifting seasons/phenology	26.3	15	61.4	35	12.3	7	0.0	0	0.0	0	57	82.7	43	13.5	7	0.0	0	3.8	2	52

Other responses listed:	
Response text:	**N**
Total responses:	**0**

Other Stressors

	To what extent is this issue a current threat to fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?											How will the significance of this threat change over the next 10 years?								
Interior Plateau (Region 5)	**Signficant threat**		**Moderate Threat**		**Minor Threat**		**Not a threat**		**I don't know**		**Total Responses**	**Increase**		**Remain the same**		**Decrease**		**I don't know**		**Total Responses**
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	%	N	
Low genetic diversity (due to reduced population size, species inbreeding, etc.)	34.0	16	36.2	17	27.7	13	0.0	0	2.1	1	47	64.4	29	31.1	14	0.0	0	4.4	2	45
Diseases	51.2	21	39.0	16	4.9	2	0.0	0	4.9	2	41	67.5	27	20.0	8	0.0	0	12.5	5	40

Other responses listed:	
Response text:	**N**
CWD BECAUSE OF CAPTIVE CERVID FARMS	1
Total responses:	**1**

16. Please use the box below to indicate other **emerging/anticipated** threats over the next 10 years to fish and wildlife habitats within **HABITAT** in the **Interior Plateau (Region 5)** that have not been previously identified. Please provide **specific examples** of the emerging/anticipated threats that you indicate.

Response text:	N
The growing dissconnect between people and natural systems inhibits the ability of the public to make informaed decisions related to natural resources. More conservation education is needed to increase the public's knowledge, experiences and skills to result in informed decisions, a commitment and constructive actions for wildlife resources.	7
The significant reduction in properly implemented early successional habitat projects has already had dramatic impacts on the game and non-game species that require this habitat in Indiana. Without increased cutting in the appropriate habitats this important cover type will be further reduced in this region and throughout Indiana.	1
1. The overwhelming and continual maturation of hardwood forests in Indiana. / 2. I-69 corridor and associated poor mitigation techniques.	1
Again the big issue is development in the Bloomington area as increased by i69. / / We must also recognize rights of way as grassland ecosystems, promote regulations to treat these areas as such, and manage these areas as grasslands.	1
As invasive insect pests and pathogens increase, I fear that we will see increased attempts to create GMO trees that are insect resistant - ash comes to mind. These have the potential to become the super invasive species of the future, susper trees that provide no food for insects andthe restt of the food chain. / / Climate change and invasive species will interact to increase invasive species threats / / If current trends contiinue, fragmentation and edge effects will increase producing even more deer and racoons.	1
Caves are probably buffered from temperature increases - but altered hydrology will be a threat to aquatic cave systems in the future / / Mining and quarrying is having a direct impact on at least one significant cave system at the moment - and I don't see demand for limestone going down in the future	1
Continued expansion of the Bloomington area will be an issue and this will be bolstered by a development boom associated with I 69. / / Introduced diseases including white nose syndrome, oak wilt, and emerald ash borer will remain an issue.	1
Expansion of wild pigs and sportsmen created refuges for thos expaning wild pig populations.	1
Forest parcels are becoming smaller making them more difficult to manage. The preservation mentality has also created a large number of landowner who are unwilling to sell timber because they believe that cutting trees is bad for the environment. As the population becomes more urbanized, this belief will continue to be problematic. / / The recession and the aging process has thinned the ranks of loggers. Without loggers to buy standing timber very little forest management will occur.and the wildlife benefits associated with multiple age classes will decrease. Species composition will also shift from oak-hickory to beech-maple.	1
Fragmentation of forests (breaking up into smaller parcels) creates smaller spaces for quality habitat for F&W. Smaller parcels are also less likely to be managed, including creation of openings and edges, invasives control, etc due to less economies of scale. Another threat is the conversion of properties to new owners due to aging population. New owners are less informed and less likely (at least at outset) of engaging in management. Also parcels are splitting leading to more owners, which is more work to provide education and resources across the same land base.	1
Historical oak-hickory dominated forests are being replaced by maple-beech dominated forests. This will continue to be a problem unless measures are taken to reverse this change in forest structure. Many taxonomic groups are depended on the mast produced by oaks & hickories and their populations could be affected by a change in forest structure.	1
Human intrusion into the economic functioning of our society, such as lowering the lake level of Lake Freeman when the system was designed for "flow through water", and if the dams weren't there, there would not have been anything that the Fish and Wildlife Service could have altered to influence the grown and or survival of the mussels in the Tippecanoe River.	1
I would say that the spread of invasive plant species are the single most significant threat as they may or may not spread depending on disturbance or lack of (species dependent). For disturbance in shady areas, stilt grass is an example. Non-disturbed shady areas are preferred by garlic mustard, though this species not as aggressive in poor, dry sites.	1
Increases in coal ash ponds and confined animal feeding operations need to be managed.	1
Industrial/Urban/Agricultral pollution of water resources from pesticide/hormonal/medicinal sources in run off and through Waste water plants. Hormoneal effects on fish gender and reproductivity down stream of Waste Water treatment plants and carry over from pesticed treatments on agricultural fields.	1
Interestingly - glades and barrens may be the winner under future climates. But only if we act to pre-position these communities so that they can expand into surrounding,	1

fire suppressed forests. Actions today could help ensure that we transition smoothly towards woodlands with interdispersed barrens that may support diverse and healthy wildlife populations into the future	
Loss of habitat through farming operations. Expanding urban sprawl to more rural areas	1
Over construction of houses and residents around water systems, cutting of forest creating more run off and pollution.	1
Renewed focus on the biological goals of forest management are a big improvement. Private forests however will be severely affected by development and forest diseases/insect issues.	1
The concept that we don't have adequate early successional habitat is inaccurate. What we lack are old growth habitats within forests. Old growth forest does the best job at protecting wetlands.	1
The lose of funding for programs like CRP. conflicting management practices between NRCS and DFWs use of wildlife CRP type programs. Keeping soil in the fields through non-crop CRP/WRP type programs benefit wildlife and water.	1
These areas will greatly expand in this region. The trick will be not losing everything as the region develops	1
Wildlife where there are no predators. Habitat is important but the present overemphasize on habitat instead of controlling predators will continually keep desirable wildlife species from maintaining improving their numbers - quail, peasant, songbirds because of hawk, etc.	1
Total Responses:	**29**

Section IV: Conservation Actions for Fish and Wildlife Habitats

Directions:
When responding to the questions in this section, please think about conservation actions for fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5).

17. Please indicate (1) the importance of the following general categories of conservation actions for fish and wildlife habitats within **HABITAT** in the Interior Plateau (Region 5) over the next 10 years, and (2) considering your responsibility within your agency/organization, whether you have taken a general category of conservation actions for fish and wildlife habitats within **HABITAT** in the **Interior Plateau (Region 5)** since 2005 or have plans to do so.

	To what extent do you think this category of conservation action is important for fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5) over the next 10 years?											Have you taken (since 2005) or do you currently plan to take conservation actions in this category for fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5)?						
Interior Plateau (Region 5)	**Very Important**		**Moderately Important**		**Somewhat Important**		**Not Important**		**I don't know**		**Total Responses**	**Yes**		**No**		**I don't know**		**Total Responses**
	%	N	%	N	%	N	%	N	%	N		%	N	%	N	%	N	
Land/water protection	61.4	81	24.2	32	10.6	14	2.3	3	1.5	2	132	69.1	76	19.1	21	11.8	13	110
Land/water/species management	57.4	74	27.9	36	9.3	12	3.1	4	2.3	3	129	72.7	80	18.2	20	9.1	10	110
Education and awareness	44.0	59	32.1	43	21.6	29	.0	0	2.2	3	134	71.8	79	20.0	22	8.2	9	110
Law and policy	34.6	45	28.5	37	29.2	38	2.3	3	5.4	7	130	40.7	44	29.6	32	29.6	32	108
Livelihood, economic, and other incentives	27.5	36	35.9	47	26.0	34	3.1	4	7.6	10	131	23.9	26	49.5	54	26.6	29	109
External capacity building	22.9	30	25.2	33	30.5	40	3.8	5	17.6	23	131	23.1	25	39.8	43	37.0	40	108

18. You indicated that in your opinion conservation actions relating to the following general categories would be very or moderately important for fish and wildlife habitats within **HABITAT** in the **Interior Plateau (Region 5)** over the next 10 years. Please indicate the importance of the following specific conservation actions within these general categories for fish and wildlife habitats within HABITAT in the Interior Plateau (Region 5). You may add additional conservation actions you think are important using the "Other, please specify" option. (Check one for each line item)

Land/Water Protection

Interior Plateau (Region 5)	Very important		Moderately important		Somewhat important		Not important		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N	
Acquire currently unprotected aquatic systems (manage and/or educate for easement habitat values)	43.5	10	39.1	9	17.4	4	0.0	0	0.0	0	23
Acquire currently unprotected barren lands	77.8	7	11.1	1	0.0	0	11.1	1	0.0	0	9
Acquire currently unprotected forests	63.3	19	26.7	8	6.7	2	3.3	1	0.0	0	30
Acquire currently unprotected grasslands	62.5	5	25.0	2	12.5	1	0.0	0	0.0	0	8
Acquire currently unprotected wetlands	81.8	9	18.2	2	0.0	0	0.0	0	0.0	0	11
Acquire currently unprotected subterranean habitats	80.0	8	10.0	1	10.0	1	0.0	0	0.0	0	10
Preserve currently existing corridors	63.7	72	25.7	29	8.0	9	1.8	2	.9	1	113
Acquire conservation easements to protect important wildlife habitats	56.3	63	36.6	41	5.4	6	1.8	2	0.0	0	112
Reduce conversion to cropland	56.6	64	23.0	26	15.9	18	2.7	3	1.8	2	113
Build/strengthen CRP partnerships	46.9	53	31.9	36	10.6	12	4.4	5	6.2	7	113

Other responses listed:

Response text:	**N**
Learn to manage rights of way	1
Total responses:	**1**

Land/Water/Species Management

Interior Plateau (Region 5)	Very important		Moderately important		Somewhat important		Not important		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N	
Control invasive species in agricultural lands	42.9	6	42.9	6	14.3	2	0.0	0	0.0	0	14
Control invasive species in aquatic systems (e.g., Asian carp, zebra mussels, invasive aquatic plants)	57.1	12	28.6	6	14.3	3	0.0	0	0.0	0	21
Control invasive species in barren lands	70.0	7	10.0	1	20.0	2	0.0	0	0.0	0	10
Control invasive species in developed lands	66.7	4	16.7	1	16.7	1	0.0	0	0.0	0	6
Control invasive species in forests	64.7	22	26.5	9	5.9	2	2.9	1	0.0	0	34
Control invasive species in grasslands	57.1	4	0.0	0	42.9	3	0.0	0	0.0	0	7
Control invasive species in wetlands	50.0	5	30.0	3	20.0	2	0.0	0	0.0	0	10
Control invasive species in subterranean systems	85.7	6	0.0	0	0.0	0	14.3	1	0.0	0	7

Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog) in agricultural lands	40.0	6	20.0	3	26.7	4	13.3	2	0.0	0	15
Control problematic native species in aquatic systems	28.6	6	28.6	6	28.6	6	14.3	3	0.0	0	21
Control problematic species (e.g., deer, raccoon, skunk, coyote, domestic cat, feral hog) in barren lands	50.0	5	20.0	2	30.0	3	0.0	0	0.0	0	10
Control problematic species (e.g., deer, raccoon, geese, domestic cat, feral hog, exotic/aggressive vegetation) in developed lands	50.0	3	16.7	1	16.7	1	16.7	1	0.0	0	6
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog) in forests	38.2	13	35.3	12	20.6	7	5.9	2	0.0	0	34
Control problematic species (e.g., raccoon, skunk, coyote, domestic cat) in grasslands	14.3	1	0.0	0	71.4	5	14.3	1	0.0	0	7
Control problematic species (e.g., deer, raccoon, domestic cat, feral hog, exotic/aggressive vegetation) in wetlands	10.0	1	30.0	3	40.0	4	20.0	2	0.0	0	10
Control problematic native species in subterranean systems	42.9	3	14.3	1	0.0	0	28.6	2	14.3	1	7
Dam removal	13.3	4	20.0	6	50.0	15	16.7	5	0.0	0	30
Decrease E. coli counts	33.3	10	26.7	8	36.7	11	3.3	1	0.0	0	30
Decrease number of combined sewer overflow events	45.2	14	32.3	10	22.6	7	0.0	0	0.0	0	31
Develop and promote farming technologies and practices that have conservation benefits (e.g., cover crops, no till)	46.4	51	33.6	37	15.5	17	3.6	4	0.9	1	110
Ex situ conservation (protection of a species outside of its natural habitat). Please specify:	2.9	3	22.1	23	18.3	19	29.8	31	26.9	28	104
Improve drainage management	37.4	40	21.5	23	30.8	33	4.7	5	5.6	6	107
Improve integrated pest management	14.3	2	50.0	7	35.7	5	0.0	0	0.0	0	14
Increase acres of riparian buffers	42.9	3	42.9	3	14.3	1	0.0	0	0.0	0	7
Increase acres enrolled in the Classified Forest and Wildlands Program	37.6	41	41.3	45	18.3	20	1.8	2	0.9	1	109
Link existing habitat blocks through corridor enhancement in agricultural lands	60.0	9	26.7	4	13.3	2	0.0	0	0.0	0	15
Link existing habitat blocks through corridor enhancement in aquatic systems	52.4	11	38.1	8	9.5	2	0.0	0	0.0	0	21
Link existing habitat blocks through corridor enhancement in barren lands	80.0	8	10.0	1	10.0	1	0.0	0	0.0	0	10
Link existing habitat blocks through corridor enhancement in developed lands	50.0	3	50.0	3	0.0	0	0.0	0	0.0	0	6
Link existing habitat blocks through corridor enhancement in forests	52.9	18	32.4	11	14.7	5	0.0	0	0.0	0	34
Link existing habitat blocks through corridor enhancement in grasslands	28.6	2	28.6	2	42.9	3	0.0	0	0.0	0	7
Link existing habitat blocks through corridor enhancement in wetlands	40.0	4	30.0	3	30.0	3	0.0	0	0.0	0	10
Enhance corridors in subterranean systems	0.0	0	28.6	2	0.0	0	57.1	4	14.3	1	7
Manage biofuel grasslands	9.1	2	27.3	6	54.5	12	4.5	1	4.5	1	22
Manage urban woodlots	50.0	3	33.3	2	0.0	0	16.7	1	0.0	0	6
Mine reclamation	31.6	30	23.2	22	24.2	23	12.6	12	8.4	8	95
Promote diversity of forest types and successional stages	61.8	21	26.5	9	8.8	3	2.9	1	0.0	0	34
Promote diversity of grassland types and successional stages	28.6	2	57.1	4	0.0	0	14.3	1	0.0	0	7
Promote diversity of wetland types and successional stages	50.0	5	40.0	4	10.0	1	0.0	0	0.0	0	10
Protect and enhance undeveloped shorelines	40.0	12	30.0	9	20.0	6	6.7	2	3.3	1	30
Protect natural water regimes (e.g., withdraws, warm-water discharge)	41.9	13	32.3	10	22.6	7	3.2	1	0.0	0	31
Protect adjacent buffer zones	60.4	29	29.2	14	10.4	5	0.0	0	0.0	0	48
Reduce losses of fish and wildlife habitats (due to agriculture, urban sprawl,	70.6	77	22.0	24	5.5	6	0.9	1	0.9	1	109

commercial development, etc.)											
Reduce nutrient and toxin loads (e.g., heavy metals, pharmaceuticals, fertilizers, insecticides)	50.9	56	25.5	28	17.3	19	3.6	4	2.7	3	110
Reduce recreational overuse of aquatic systems	23.8	5	14.3	3	33.3	7	28.6	6	0.0	0	21
Reduce recreational overuse of forests	15.6	5	34.4	11	31.3	10	15.6	5	3.1	1	32
Reduce recreational overuse of grasslands	14.3	1	0.0	0	57.1	4	28.6	2	0.0	0	7
Reduce recreational overuse of wetlands	10.0	1	40.0	4	30.0	3	20.0	2	0.0	0	10
Reduce recreational overuse of subterranean systems	14.3	1	71.4	5	14.3	1	0.0	0	0.0	0	7
Reduce stream bank erosion	47.6	10	42.9	9	9.5	2	0.0	0	0.0	0	21
Reduce stream head cutting	33.3	7	47.6	10	4.8	1	9.5	2	4.8	1	21
Reestablish natural disturbance regimes in barren lands	70.0	7	20.0	2	10.0	1	0.0	0	0.0	0	10
Reestablish natural disturbance regimes in forests	50.0	17	35.3	12	14.7	5	0.0	0	0.0	0	34
Reestablish natural disturbance regimes in grasslands	57.1	4	28.6	2	14.3	1	0.0	0	0.0	0	7
Reestablish natural disturbance regimes in wetlands	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Reestablish natural disturbance regimes in subterranean systems	0.0	0	33.3	2	33.3	2	0.0	0	33.3	2	6
Remove log jams	23.8	5	9.5	2	42.9	9	23.8	5	0.0	0	21
Restore and integrate diversity of habitats into crop-production dominated landscapes	53.3	8	40.0	6	6.7	1	0.0	0	0.0	0	15
Restore and integrate diversity of habitats into developed landscapes	66.7	4	33.3	2	0.0	0	0.0	0	0.0	0	6
Restore habitats and natural systems in aquatic systems	42.9	9	47.6	10	9.5	2	0.0	0	0.0	0	21
Restore habitats and natural systems in barren lands	70.0	7	20.0	2	10.0	1	0.0	0	0.0	0	10
Restore habitats and natural systems in forests	55.9	19	38.2	13	5.9	2	0.0	0	0.0	0	34
Restore habitats and natural systems in grasslands	42.9	3	57.1	4	0.0	0	0.0	0	0.0	0	7
Restore habitats and natural systems in wetlands	60.0	6	40.0	4	0.0	0	0.0	0	0.0	0	10
Restore habitats and natural systems in subterranean systems	42.9	3	28.6	2	28.6	2	0.0	0	0.0	0	7
Species reintroduction. Please specify:	15.4	6	17.9	7	15.4	6	7.7	3	43.6	17	39

***Ex situ* conservation**

Response text	**N**
game birds	1
stocked fish preditors	1
Total responses:	**2**

Species reintroduction listed by respondents:

Response text:	**N**
black bears	2
Ruffed Grouse	2
Crawfish frogs	1
american chestnut	1
American chestnut	1
American hestnut, etc.	1

Butternut & American Chestnut	1
Grouse	1
GROUSE, QUAIL, PHESANT	1
warm season grasses and forbs	1
Total Responses:	**12**

Other responses listed:

Response text:	**N**
American chestnut	2
elk	2
Larger-scale timber harvests	1
Small-diameter timber utilization	1
Total Responses:	**6**

Education and Awareness

Interior Plateau (Region 5)	Very important		Moderately important		Somewhat important		Not important		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N	
Educational programs in general	58.4	59	32.7	33	7.9	8	1.0	1	.0	0	101
Educational programs specifically for K-12	63.7	65	24.5	25	11.8	12	0.0	0	0.0	0	102
Improvement of signage and other communication materials in conservation areas	26.7	27	35.6	36	35.6	36	2.0	2	0.0	0	101
Training programs for stakeholders	51.5	52	37.6	38	6.9	7	1.0	1	3.0	3	101

Other responses listed:

Response text:	**N**
Total responses:	**0**

Law and Policy

Interior Plateau (Region 5)	Very important		Moderately important		Somewhat important		Not important		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N	
Increase regulations on invasive species	58.0	47	23.5	19	14.8	12	2.5	2	1.2	1	81
Change current laws, policies, and regulations. Please specify:	25.4	18	33.8	24	11.3	8	0.0	0	29.6	21	71
Set private sector standards and codes	30.9	25	44.4	36	18.5	15	0.0	0	6.2	5	81
Improve compliance with and enforcement of current policies	48.1	39	39.5	32	8.6	7	1.2	1	2.5	2	81
Reduce urban sprawl through planning and zoning	65.9	54	19.5	16	12.2	10	1.2	1	1.2	1	82
Establish legal lake levels	23.5	4	17.6	3	29.4	5	17.6	3	11.8	2	17
Establish rules and guidelines for piers and other structures	23.5	4	29.4	5	11.8	2	29.4	5	5.9	1	17
Increase compliance of existing rules and regulations for aquatic systems	52.9	9	41.2	7	5.9	1	0.0	0	0.0	0	17
Establish submergent vegetation control guidelines	23.5	4	52.9	9	17.6	3	5.9	1	0.0	0	17

Change current laws, policites, and regulations responses:

Response text	N
bird nest	1
Charge exporter for invasive inspection of imported materials and cost of removal	1
cOAL MINE RECLAMATION LAWS ARE BEING CIRCUMVENTED. NEW PRACTICES WHICH ARE DETRIMENTAL ARE BEING APROVED.	1
confined animal feeding operations	1
drainage code	1
financial burden of inspection and removal of invasives on exporter at time of entree	1
Indiana Bat rules	1
make assistance available to non profit organizations	1
MAKE SURE LARGE STORES EG WALLMRT AND SUCH TAKE CARE IN SOURCING OF PLANTS AND TREES	1
Mining and quarrying should be regulated relative to impacts on aquatic resources	1
no filling of sinkholes allowed	1
no forest conversion allowed without mitigation	1
no new road mileage	1
Restrict development based on sewage load added to water systems	1
Septic system installation and maintenance needs to be improved	1
STRENGTHEN RECLAMATION LAWS	1
Total responses	13

Other responses listed:

Response text	N
Total responses:	**0**

Livelihood, Economic, and Other Incentives

Interior Plateau (Region 5)	Very important		Moderately important		Somewhat important		Not important		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N	
Link natural resources to livelihoods through nature tourism	30.1	25	27.7	23	39.8	33	2.4	2	0.0	0	83
Support substitution of alternatives for environmentally harmful products and processes	36.6	30	31.7	26	25.6	21	1.2	1	4.9	4	82
Promote market forces (e.g., creation of a nitrogen trading market, promotion of alternative agricultural markets) as a tool for conservation	29.3	24	29.3	24	31.7	26	6.1	5	3.7	3	82
Promote conservation payment programs (e.g., payment for ecosystem services, conservation easements)	43.4	36	41.0	34	13.3	11	1.2	1	1.2	1	83
Promote nonmonetary values of natural systems within the state	45.1	37	40.2	33	12.2	10	1.2	1	1.2	1	82
Manage recreational opportunities to be compatible with fish and wildlife habitats	42.0	34	42.0	34	13.6	11	2.5	2	0.0	0	81

Other responses listed:

Response text	**N**
mitigation land banks	1
Total responses:	**1**

External Capacity Building

Interior Plateau (Region 5)	Very important		Moderately important		Somewhat important		Not important		I don't know		Total Responses
	%	N	%	N	%	N	%	N	%	N	
Develop institutions and civil society	17.5	11	33.3	21	20.6	13	4.8	3	23.8	15	63
Develop alliances and partnerships (e.g., between producers, landowners, and conservation professionals)	58.7	37	31.7	20	7.9	5	0.0	0	1.6	1	63
Strengthen conservation financing	74.6	47	14.3	9	11.1	7	0.0	0	0.0	0	63
Increase state's capacity for research and monitoring of conservation actions	49.2	31	39.7	25	9.5	6	0.0	0	1.6	1	63
Promote green infrastructure	54.0	34	27.0	17	15.9	10	1.6	1	1.6	1	63
Promote use of research and science in conservation decision-making processes	59.0	36	36.1	22	3.3	2	1.6	1	0.0	0	61

Other responses listed:

Response text	**N**
Total responses:	**0**